

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte OLIVER HECKER and STEFFEN RITZ

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**MAILED**

**OCT 23 2006**

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. 2006-1488  
Application 09/530,156

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ON BRIEF

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Before FRANKFORT, BAHR and NAPPI, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 10 and 17 through 19, all of the claims remaining in the application. Claims 2 through 9, 11 through 16, 20 and 21 have been cancelled.

Appellants' invention is directed to a method of operating a brake assist system that is operable during an emergency brake situation to automatically raise the brake pressure in the wheel brakes above the level predetermined by the driver. More specifically, appellants' method seeks to avoid the problem in the prior art of having an abrupt termination of the brake assist when

the events requiring the automatic brake event are no longer present and the driver indicates that only a lower, normal brake force is necessary. According to the present invention, the excess elevation of the brake force caused by the automatic brake assist is successively and controllably diminished so that the transition from brake assist to conventional brake operation is essentially unnoticeable to the driver. More particularly, page 3 of the specification indicates that

Preferably, the excess elevation function descends in time segments in which the master cylinder pressure descends. Further, the excess elevation function is constant in time segments in which the tandem master cylinder pressure increases. Thus, every diminution of the induced brake force effects a reduction of the excess elevation, and every other input via the brake pedal affects the wheel brake pressure but not the excess elevation. In this way, the brake assistant support can be diminished unnoticeably for the driver.

Independent claim 1 is representative of the subject matter on appeal and a copy of that claim can be found in Appendix A attached to appellants' brief.

The sole prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

Nakanishi et al.  
(Nakanishi)

6,027,182

Feb. 22, 2000

Claims 1, 10 and 17 through 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Nakanishi.

Rather than attempt to reiterate the examiner's commentary with respect to the above-noted § 102 rejection and the conflicting viewpoints advanced by appellants and the examiner regarding that rejection, we make reference to the examiner's answer (mailed March 11, 2004) and supplemental answer (mailed November 3, 2005) for the reasoning in support of the rejection, and to appellants' brief (filed December 8, 2003), reply brief (filed May 11, 2004), and corrected brief (filed April 22, 2005) for the arguments thereagainst

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art reference, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determination that the examiner's § 102(e) rejection of claims 1, 10 and 17 through 19 will not be sustained. Our reasons follow.

Suffice to say that we agree with appellants' assessment of the teachings of Nakanishi. In the first place, Nakanishi is not solving the same problem confronted by appellants, i.e., avoiding an abrupt

termination of the brake assist by ensuring that the excess elevation of the brake force caused by the automatic brake assistant system is gradually and controllably diminished in a manner that will be essentially unnoticeable to the driver. As pointed out by appellants in the briefs and reply brief, Nakanishi (col. 13, line 65 thru col. 14, line 7) teaches that the brake assist pressure is terminated by opening the master cut valve (28), closing the inlet valve (78) and turning off the pump (76), thereby abruptly terminating the brake assist pressure without any controlled diminution. There is no teaching in Nakanishi of determining when the wheel brake pressure is "excessively elevated compared to the monitored master brake cylinder pressure" (claim 1, lines 7-8) and then controlling the amount of excess elevation to provide a gradual transition from the second mode of operation, where the brake assist system is in operation, into the first mode of operation where the brake assist system is not actuated, as required in the claims on appeal.

In Nakanishi, during brake assist control, the brake assist pressure is set to a value by which the assist deceleration  $G_a$  is a constant 0.3G (col. 13, lines 51-53). The impact of that relationship is shown in Figure 3 of Nakanishi in that the actual brake fluid pressure ( $P_b$ ) is always higher than the master cylinder

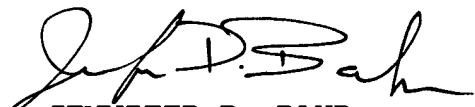
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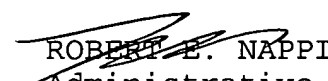
pressure ( $P_{M/C}$ ) by the predetermined assist pressure ( $P_a$ ). Thus, as also argued by appellants, there is no "time-dependent" excess elevation function of the type set forth in claim 1 on appeal in Nakanishi, no apparent need to monitor such a function, and no step of controlling the amount of excess elevation using the time-dependent excess elevation function to determine a desired momentary value of the wheel brake pressure that provides a transition of the type required in claim 1 on appeal.

In light of the foregoing, we will not sustain the examiner's rejection of independent claim 1, or of dependent claims 10 and 17 through 19, under 35 U.S.C. § 102(e) based on Nakanishi. Thus, the decision of the examiner is reversed.

REVERSED

  
CHARLES E. FRANKFORT )  
Administrative Patent Judge )

  
JENNIFER D. BAHR )  
Administrative Patent Judge )

  
ROBERT E. NAPPI )  
Administrative Patent Judge )

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